

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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INVESTIGATION NO. 3206  
THE PENNSYLVANIA RAILROAD COMPANY  
REPORT IN RE ACCIDENT  
AT WEST BELLEVUE, PA., ON  
OCTOBER 6, 1948

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SUMMARY

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Railroad: Pennsylvania  
Date: October 6, 1948  
Location: West Bellevue, Pa.  
Kind of accident: Derailment  
Train involved: Passenger  
Train number: 53  
Engine numbers: 5058 and 5446  
Consist: 9 cars  
Estimated speed: 65 m. p. h.  
Operation: Signal indications  
Tracks: Four; tangent; level  
Weather: Cloudy  
Time: 1:26 p. m.  
Casualties: 2 killed; 41 injured  
Cause: Rock slide

INTERSTATE COMMERCE COMMISSION

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INVESTIGATION NO. 3206

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS  
UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

THE PENNSYLVANIA RAILROAD COMPANY

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November 23, 1948

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Accident at West Bellevue, Pa., on October 6, 1948,  
caused by a rock slide.

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REPORT OF THE COMMISSION<sup>1</sup>

PATTERSON, Commissioner:

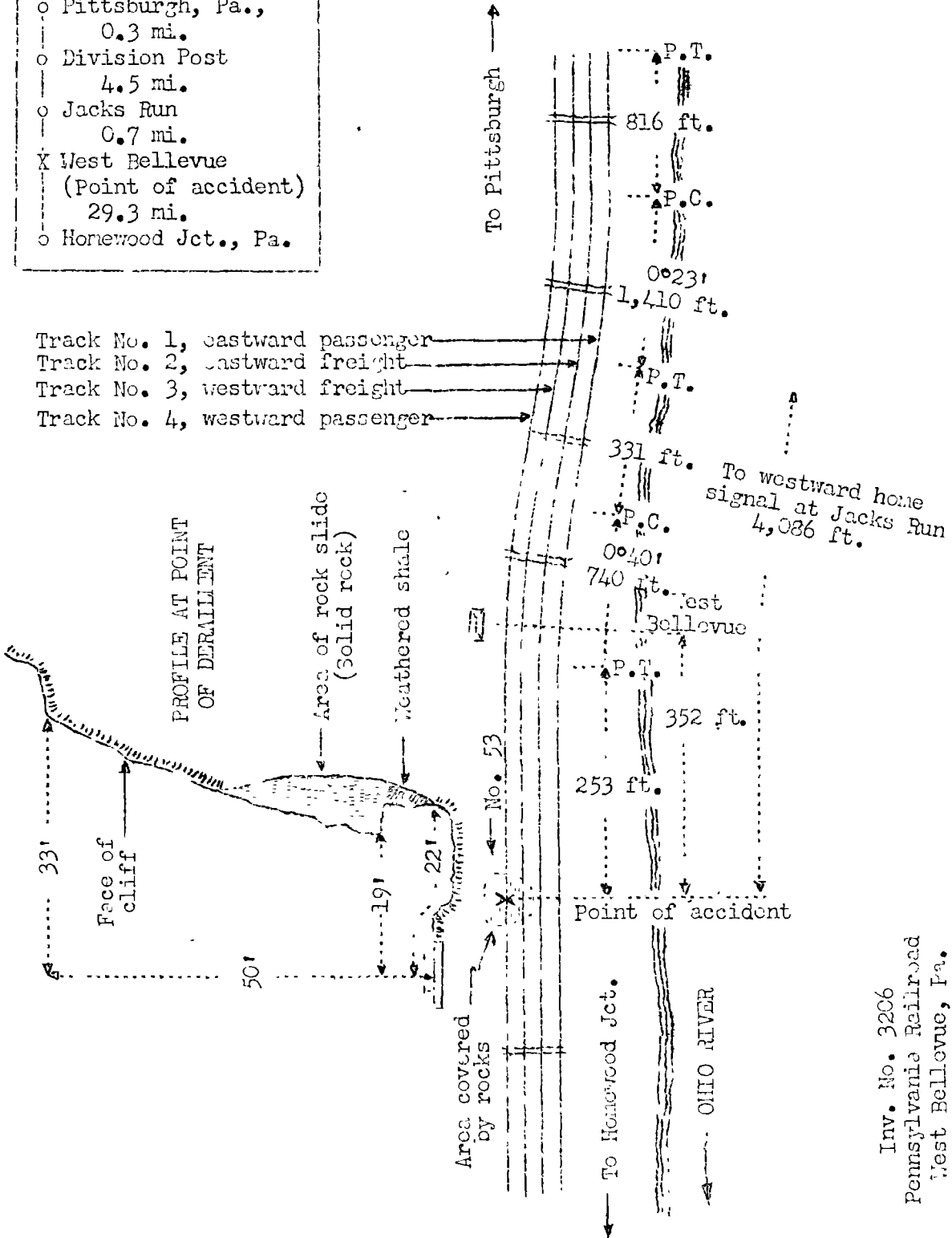
On October 6, 1948, there was a derailment of a passenger train on the Pennsylvania Railroad at West Bellevue, Pa., which resulted in the death of 2 employees, and the injury of 27 passengers, 6 lounge and dining-car employees, 3 Pullman employees, 3 train-service employees on duty, and 2 train-service employees off duty.

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Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.

- o Pittsburgh, Pa.,  
0.3 mi.
- o Division Post  
4.5 mi.
- o Jacks Run  
0.7 mi.
- X West Bellevue  
(Point of accident)  
29.3 mi.
- o Homewood Jct., Pa.



Inv. No. 3206  
 Pennsylvania Railroad  
 West Bellevue, Pa.  
 October 6, 1949

Location of Accident and Method of Operation

This accident occurred on that part of the Eastern Division extending between Division Post, 0.3 mile west of Pittsburgh, and Homewood Jct., Pa., 34.5 miles. In the vicinity of the point of accident this is a four-track line, over which trains moving with the current of traffic are operated by signal indications. The main tracks from south to north are designated as No. 1, eastward passenger; No. 2, eastward freight; No. 3, westward freight; and No. 4, westward passenger. The accident occurred on track No. 4 at a point 5.57 miles west of Pittsburgh and 352 feet west of the station at West Bellevue. From the east on track No. 4 there are, in succession, a tangent 816 feet in length, a 0°23' curve to the right 1,410 feet, a tangent 331 feet, a 0°40' curve to the left 740 feet and a tangent 253 feet to the point of accident and some distance westward. The grade is level.

The track structure consists of 131-pound rail, 39 feet in length, laid new in 1946 on 24 treated ties to the rail length. It is fully tie-plated with heavy duty tie plates, spiked with two rail-holding spikes and two anchor spikes per tie plate, and is provided with an average of 8 rail anchors per rail length and 36-inch 6-hole joint bars. The track is ballasted with crushed stone to a depth of 26 inches.

In the vicinity of the point of accident the railroad parallels the Ohio River and the track is laid on an embankment at the base of a sandstone cliff approximately 120 feet in height. At this point the river is about 65 feet south of the centerline of track No. 1 and the surface of the water is about 15 feet below the level of the base of the rail. The face of the cliff is 22 feet north of the centerline of track No. 4 and rises on a 1 to 5 slope to a height of 50 feet above the level of the base of the rails, from which point it slopes northward at an angle of approximately 35° until it levels off at the top. The rock generally is sandstone lying on a layer of clay or shale which varies from 3 to 5 feet in thickness. Track No. 4 parallels the base of this cliff for a distance of 1,055 feet. The accident occurred at a point 253 feet west of the east end of this cliff. A drainage ditch 3-1/2 feet deep and 8 feet wide lies between track No. 4 and the base of the cliff.

The westward home signal at Jacks Run interlocking, which governs movement over the track involved, is located 4,086 feet east of the point of accident, and is a two-unit, position-light signal, continuously lighted.

The maximum authorized speed for passenger trains is 70 miles per hour.

### Description of Accident

No. 53, a west-bound first-class passenger train, consisted of engines 5058 and 5446, one baggage-dormitory-passenger car, two coaches, one dining car, one sleeping car, one passenger-baggage car, one coach, one parlor-cafe car and one baggage car, in the order named. All cars were of all-steel construction. This train departed from Pittsburgh at 1:15 p. m., on time, passed the westward home signal at Jacks Run interlocking, which indicated proceed, at 1:25 p. m., on time, and while it was moving on track No. 4 at an estimated speed of 65 miles per hour struck a rock slide and was derailed.

Engine 5058 stopped 462 feet west of the point of derailment, on its left side, across track No. 3 and fouled tracks Nos. 2 and 4. Its tender stopped on its side, across tracks Nos. 3 and 4, and at an angle of about 90° to the engine. Engine 5446 stopped on its left side, against the tender of engine 5058 and across all four tracks. Its tender remained upright, and stopped across tracks Nos. 3 and 4. The front end of the first car was crushed between the tender of the second engine and the cliff, and the rear part was bent around the corner of the tender. The second car stopped across all four tracks and at an angle of about 45° to them. The third, fourth and fifth cars were derailed and stopped upright and in line with track No. 4. The front truck of the sixth car was derailed. Both engines and their tenders were badly damaged. The first car was destroyed. The second, third and fourth cars were badly damaged, and the fifth car was slightly damaged.

The engineer and the fireman of the second engine were killed, and the engineer and the fireman of the first engine and the baggagoman were injured.

The weather was cloudy at the time of the accident, which occurred at 1:26 p. m.

### Discussion

No. 53 was moving on tangent track at a speed of 65 miles per hour, in territory where the maximum authorized speed was 70 miles per hour, when it struck a rock slide. Both engines and tenders and the first six cars were derailed. Prior to the time of the accident the cars had been riding smoothly.

As this train was approaching the point where the accident occurred the enginemen of the first engine were maintaining a lookout ahead, but, because of track curvature, their view of the track ahead was restricted to the extent that they were unable to see the rock on the track until the first engine was within 450 feet of it. Then the fireman called a warning, and the engineer immediately placed the brake valve in emergency position, but the impact occurred before the speed of the train was appreciably reduced. The brakes of this train had been tested and had functioned properly en route. The members of the train crew were stationed in various positions throughout the train and were not aware of anything being wrong until the brakes were applied in emergency.

Examination after the accident disclosed that a mass of rock approximately 35 feet in length, 20 feet in height, and 8 feet thick and weighing between 85 and 100 tons, had fallen from the face of the cliff into the drainage ditch and upon the roadbed. About one-half of this mass was in one piece, which fell partly in the ditch and partly on the track structure, and fouled the north rail of track No. 4 in such manner that it was struck by the pilot and the right side of the first engine.

The cliff adjacent to the track is patrolled by maintenance-of-way forces throughout a distance of about 3 miles in either direction from the point of accident. A maintenance-of-way employee passed the location of the slide about 10:10 a. m. on the day of the accident and observed no unusual condition at that time. Members of the engine and train crews of two east-bound trains which passed the point of accident about 1:10 p. m. and 1:15 p. m. on the day of the accident said that there was no rock on the roadbed at the time those trains passed the point where the accident later occurred. A lockman, who resides in the West Bellevue station building, said that he was on the platform at West Bellevue station as No. 53 was approaching, and that while the engines were passing him he looked toward the west and saw the rocks fall upon the track just ahead of the train.

A foreman with a force of four men made periodic detailed inspections of the cliffs in this vicinity. During these inspections workmen were lowered over the face of the cliff by ropes, and all cracks and crevices were tested by bars. Any rocks found to be loose were removed. The last detailed inspection of the cliff involved was made on June 26, 1948. An inspection of the cliff was made by the foreman on October 4, 1948, and by the track supervisor on September 17, 1948. Neither of these inspections disclosed any evidence of movement of rock or of any unusual condition in the vicinity of that particular portion of the cliff that fell.

The carrier has no record of any previous rock slide near this location, and the cliff in question was considered to be one of the most stable in this area.

Cause

It is found that this accident was caused by a rock slide.

Dated at Washington, D. C., this twenty-third day of November, 1948.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,  
Secretary.